

Attorney Docket No. A34754-070337.0285
PATENT

CLAIMS:

1. (currently amended) A tread for a tire having a preferred direction of travel, the tread comprising a plurality of tread pattern elements, each element being defined by cutouts of longitudinal and transverse general orientation, each element having an upper contact face and lateral faces extending in the direction of the thickness of the tread, the intersection of each lateral face with the upper contact face forming a ridge, the ridge which is first to come into contact with a road surface forming the leading edge of the element, the ridge which is last to emerge from the contact forming the trailing edge of the element; ~~at least a plurality of tread pattern elements comprising a plurality of wells of section S and of depth H which open on to the contact face of said elements; wherein the plurality of elements is provided with a plurality of wells, wherein each of the elements provided with wells being~~ is divided into a front section and a rear section by a virtual median plane P_v , said median plane P_v being perpendicular to the upper contact face of the element and to the longitudinal direction of the tread and passing through the center of mass G of the upper contact face of the element when new, the front section comprising the leading edge and the rear section comprising the trailing edge, and wherein the front and rear sections of an element comprise a positive number of wells which open only to the upper contact face, wherein each well has a cross-sectional area S and a depth H such that H is a substantially large fraction of the thickness of the tread and at least greater than 5 mm, and such that the cross sectional dimensions of the well are a substantially small fraction of H, wherein for each all tread pattern elements that are provided with at least one well wells the volume V_{pa} of all the wells located in the front section of the a tread pattern element is greater than the volume V_{pr} of all the wells located in the rear section of the tread pattern element when the tread is new.

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2. (cancelled).
3. (previously presented) A tread according to Claim 2, wherein the wells are arranged along at least two lines substantially parallel to the leading edge, the depths of the wells of two successive lines being different.
4. (previously presented) A tread according to Claim 3, wherein the wells are arranged along at least two lines substantially parallel to the leading edge, the wells having sections S of between 0.2 mm^2 and 12 mm^2 , the sections of the wells of two successive lines being different.
5. (previously presented) A tread according to Claim 2, wherein the wells have their depths H which decrease gradually from a distance L from the leading edge towards the trailing edge.
6. (previously presented) A tread according to Claim 1, wherein, on the contact face of at least one tread pattern element, the average number of wells per square centimeter is less than or equal to 15.
7. (previously presented) A tread according to Claim 6, wherein, on the contact face of at least one tread pattern element, the number of wells per square centimeter decreases substantially from the leading edge towards the trailing edge.
8. (previously presented) A tread according to Claim 1, wherein the axis of each well is substantially perpendicular to the contact face of each tread pattern element when new.

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9. (previously presented) A tread according to Claim 1, wherein at least one well of a tread pattern element has a main axis forming an angle other than zero with a direction perpendicular to the contact face of the tread pattern element.

10. (previously presented) A tread according to Claim 1, wherein the main axis of at least one well of a tread pattern element has an inclination relative to a line perpendicular to the contact face of said element which is not constant in the thickness of the tread.

11. (currently amended) A tire having a tread which is provided with a tread pattern which imparts to the tire a preferred direction of travel, the tread comprising a plurality of tread pattern elements, each tread pattern element having an upper contact face and lateral faces extending in the direction of the thickness of the tread, the intersection of each lateral face with the upper face forming a ridge, the ridge which is first to come into contact with a road surface forming the leading edge of the element, the ridge which is last to emerge from the contact forming the trailing edge of the element; ~~at least a plurality of tread pattern elements comprising a plurality of wells of section S and of depth H which open on to the contact face of said elements; wherein each element being~~ is divided into a front section and a rear section by a virtual median plane P_v , said median plane P_v being perpendicular to the upper contact face of the element and to the longitudinal direction of the tread and passing through the center of mass G of the contact face of the element when new, the front section comprising the leading edge and the rear section comprising the trailing edge; wherein the front and rear sections of the element comprise a positive number of wells which open only to the upper contact face, wherein each of the wells has a cross-sectional area S and a depth H such that H is a substantially large fraction of the thickness of the tread and at least greater than 5 mm, and such that the cross sectional dimensions of the well are a substantially small fraction of H and, wherein the tread being

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characterized in that, when new and for each tread pattern element which is provided with wells, the wells have sections of between 0.2 mm^2 and 12 mm^2 , and in that the volume V_{pa} of all the wells located in the front section of the tread pattern element is greater than the volume V_{pf} of all the wells located in the rear section of said element, whereby the front section has lower wear resistance than an average wear resistance of the tread element and the rear section has higher wear resistance than the average wear resistance.

12. (previously presented) A tire according to Claim 11, wherein at least the tread pattern elements located in the median region of its tread are provided with wells.